MATERIALS REPORT
SOLDOTNA-KASILOF
PROJECT NUMBER F-021-1(15)
AUGUST 1962

Submitted by:

Monte K. Weaver
District Geologist, Anchorage

Approved by:

Floyd Grant
District Materials Engineer, Anchorage

MATERIALS REPORT
Soldotna-Kasilof, Project No. F-021-1(15)

INTRODUCTION

This report covers the investigation of the embankment of the completed portion of the Sterling Highway from Soldotna to Kasilof. Material Sites 11-002-61, 11-030-62, 11-031-62, and 11-032-62 are included in the investigation. Most of the pit information is taken from previous reports which are listed below. The project engineers "Break Up" inspection book, 1961, was also used in the investigation. The writer made an inspection of the project with the project engineer, G. H. Lantz, on August 7, 1962. Spot borings were made of the existing road break-up areas on August 9, 1962. The memorandum of G.H. Lantz, dated July 30, 1962, was also considered in the reports recommendation. Equipment used includes a 6 x 6 truck with 16 inch auger, and various hand tools. The investigation was conducted by M. K. Weaver, District Geologist.

LOCATION

The Soldotna-Kasilof area lies in the northwest part of the Kenai Peninsula of south central Alaska. The area is bound by the Cook Inlet to the west and north. The project begins at the Kenai River (Soldotna) and runs south thirteen miles to the Kasilof River. The project is thirteen miles in length of which three miles is a complete reconstruction.

PREVIOUS REPORTS

The Bureau of Public Roads completed one materials report, dated 1957, covering this area.

There were several Intra-Departmental-Memos written by this department in 1960 and 1961 on the previous project. A supplemental materials report, dated March 1962, covers the area known as the Three Mile Exception (Sta. 2445+00 to 2589+00). That report also contains information on the Slikok Pit, Materials Site 11-009-62.

MATERIAL SITES

There are five material sites with proven sand and gravel of various types for this project. It is believed that sites 11-030-62, 11-009-62, 11-032-62, and 11-002-61 will be necessary for the project. Use Permits should be acquired for them. Site 11-031-62 has not been opened up but 11-030-62 has been opened. They are only a short distance apart, therefore, site 11-031-62 is not believed necessary for the project. See the vicinity map and the outline of Materials Site Report for each pit for the locations and more information on the pits.

BREAK UP DATA

The project engineer observed several frost heaves within the project in the winter of 1961-62. He took action the following construction season to correct most of them. An uncorrected heave was in the Kasilof cut where the cut bottoms on silt. A boring was made and water was found running. It does not appear to be drying up. Therefore, underdrains are recommended at that location (see Recommendations).

The amount of overlay used on this project allows the underlying silt to freeze in most cases. If moisture is present, a heave can be expected. Long, uniform heave areas will not be noticed in many cases. When drilling a heave area in the summer months, the cause of the heave may not be found. Many times a heave does not reoccur in the same place each winter. Borings at break-up are the most useful.

During construction, there were two areas of silt pumping into the gravel base. They were at Station 2242+00 to 2244+00 and Station 2777+00 to 2782+00. Both areas

are on fairly high fills and over dry areas. The embankment from Station 2240+00 to 2244+50 has seeps on both sides about seven feet below the existing grade. There are indications that there was considerable drainage from the fill in previous months. The present area of major seepage is from Station 2241+00 to 2243+00. As there is not a source for this water, it is believed that wet material was placed in the embankment during construction. Borings taken in the area indicate that the condition is improving from what it must have been. The silt layer under the gravel base is now nearly dry and the only moisture now present is in a gray silty sand from five feet to eight feet below the existing grade. It is from this sandy layer that the water seeps out. Silt has pumped through to the surface at these locales mainly along the center of the road.

The second area from Station 2777+00 to 2782+00 is not drying out as rapidly as the first one. It also is believed caused by a wet silt layer under the gravel base, but as the silt layer is thicker and does not have granular material beneath it, the loss of moisture is not as rapid. Drying conditions for several months in this area may allow the condition to dry and achieve stability. However, the gravel base is contaminated with silt and should be removed before paving for best results. This area may be a point of very bad break up in spring 1963 and should be observed carefully at that time. If it does not fail it may not need to be excavated any more than 24 inches. A depth of 54 inches is recommended for excavation if it does fail. At the time of the investigation, August 8, 1962, the wet zone of silt was from two feet to six feet below the surface. Some of the wet brown silt has pumped up to the surface and is visible near the center of the road.

BACKSLOPE PROBLEMS

The area of most backslope erosion and slumping is from Station 2221+00 to 2233+00, both right and left. Water comes from the contact zone of silt and the overlying wind blown sand. The sands are permeable and allow the movement of water. Where it reaches the area of the road cut, it weakens the material which flows down the backslope into the ditch. Low areas several hundred feet both right and left appear to be the source area for the water. The cuts have opened the sand areas and the wind is again blowing the sand. This may be a future problem. When the equipment is available, an attempt will be made to drill horizontal holes to tap the water 60 to 100 feet back and drain it out to the surface. This, if successful, would lead to stabilization.

DESIGN OF BASE AND SURFACING

Non-frost susceptible gravels of the AASHO class, A-1-a, will have adequate base and surfacing in using six inches of base and three inches of surfacing. Much of this project was previously brought up to grade with gravels of a sandy nature (A-1-b and A-3). This material generally requires at least nine inches of crushed base and three inches of surfacing. The roadway width does not permit laying 12 inches and maintaining 4:1 side slopes. Due to these conditions it will be necessary to go to an increased thickness of pavement. The following is recommended: 4 inches of type D-1 crushed aggregate base, 2 inches of asphalt treated D-1 aggregate base, and 3 inches of asphaltic concrete. This will give a total of five inches of asphalt treated aggregate and will give adequate bearing strength during break-up (see Typical of Paving).

SUGGESTED MATERIAL TYPES

Type I: Type I material shall meet the requirements for material classification A-1-a, A-1-b, or A-3 under AASHO Soil Designation M145-49, except that the maximum

percentage of particles passing the 200-mesh sieve is revised to 12 percent as determined by AASHO T-11.

Type II: Type II selected material shall meet the requirements for A-1-a materials classification under AASHO Soil Designation M145-49, except that all material shall pass a sieve with two inch square openings and only 10% maximum shall pass the 200-mesh sieve as determined by AASHO T-11.

Type III: (filter blanket)

Sieve Designation	Percent by weight passing
4 inch	100
2½ inch	90-100
3/8 inch	50-100
No. 30	25-100
No. 200	0-10

RECOMMENDATIONS

1. The following areas which were left low on the project F-021-1(9) should be built up the shown amount (taken from Project Engineers' Memorandum).

Station to Station	Approximate Average Raise Needed
2184+00 - 2185+00	0.5'
2217+00 - 2219+00	0.5'
2261+00 - 2300+00	0.3'
2301+00 - 2315+00	0.2'
2394+00 - 2400+00	0.3'
2590+00 - 2592+00	0.2'
2593+00 - 2597+00	0.6'
2687+00 - 2692+00	0.2'
2794+00 - 2813+00	0.2'
2818+00 - 2825+00	0.2'
2826+00 - 2837+00	0.3'
2855+00 - P.T. 2861+20 "B" P.O.T. 2856+54.3 "L"	0.8'
2860+00 - P.T. 2861+20 "B" P.O.T. 2856+54.3 "L"	0.8'

These may be increased, but should not be decreased. The deficient areas should be filled with Type II material.

2. The constructed surface of the road with the exception of the deficient areas should be scarified, reshaped, and compacted bofore the base course is added. This should aid in removing any +2" diameter rocks from the top six inches of the existing road.

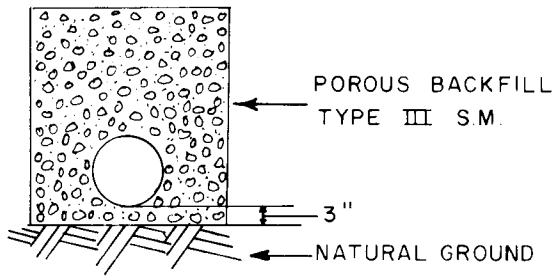
3. The area from Station 2242+00 to 2244+00 will require excavation down to 24 inches. It should be backfilled with Type II material.

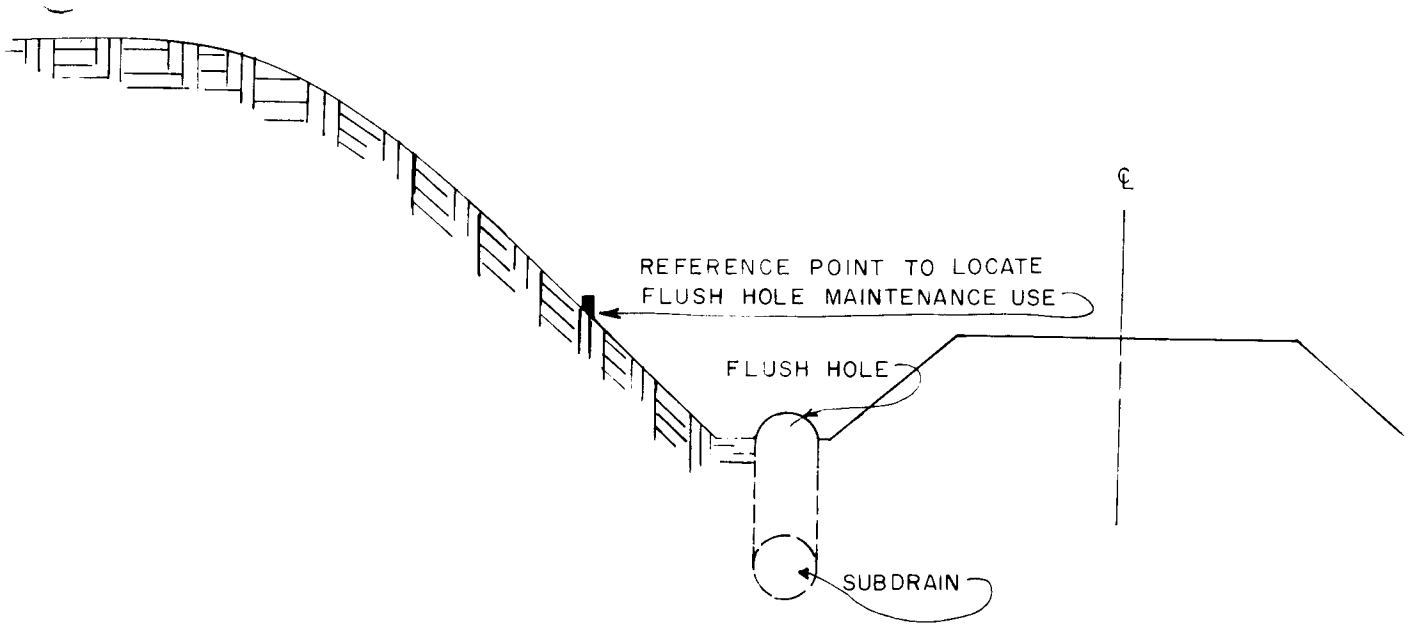
4. The area from Station 2777+00 to 2782+00 will require excavation down to 54 inches. It should be backfilled with Type II material and compacted. A longitudinal taper of 20:1 is recommended on any excavation to insure a uniform transition after backfilling and compaction.

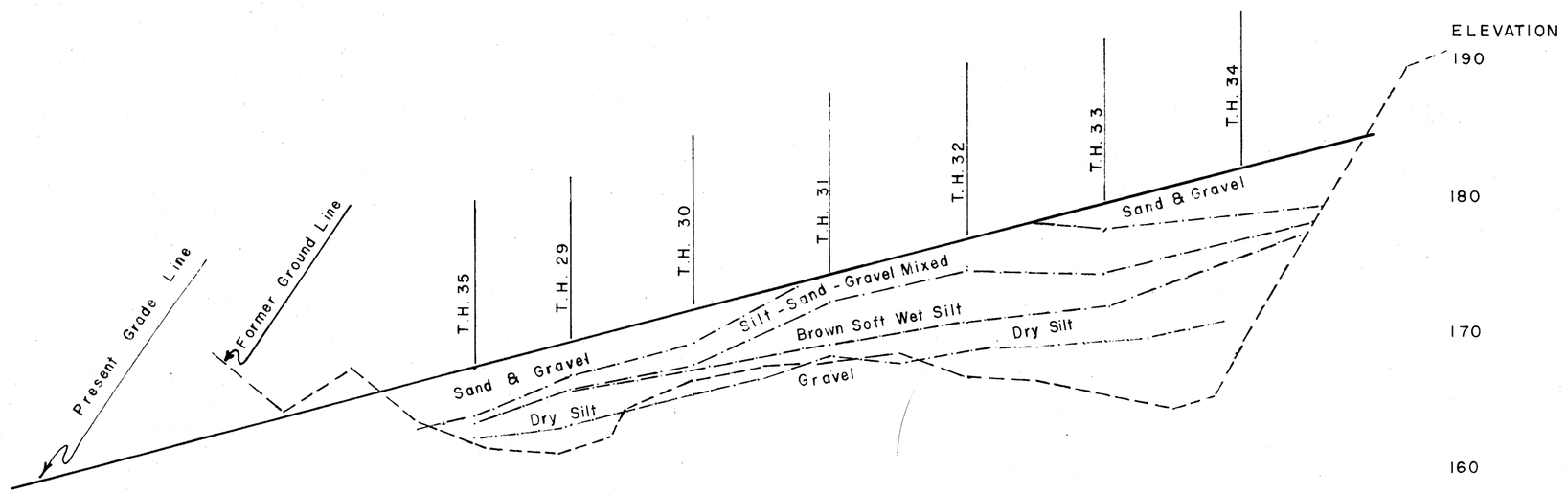
5. An eight inch perforated underdrain is recommended in the left ditch of the Kasilof Cut from Station 2853+00 to 2858+00. It should begin at a depth of six feet under the right shoulder at Station 2853+00, run across the roadway to the center of the left ditch, and then ahead to Station 2858+00. The depth should remain near four feet until it is brought to the surface. The outlet should be brought above the surface of the ditch six to twelve inches to insure an unobstructed outlet. The pipe should be bedded with porous backfill, Type III select material (see sketch).

Monte K. Weaver
District Geologist

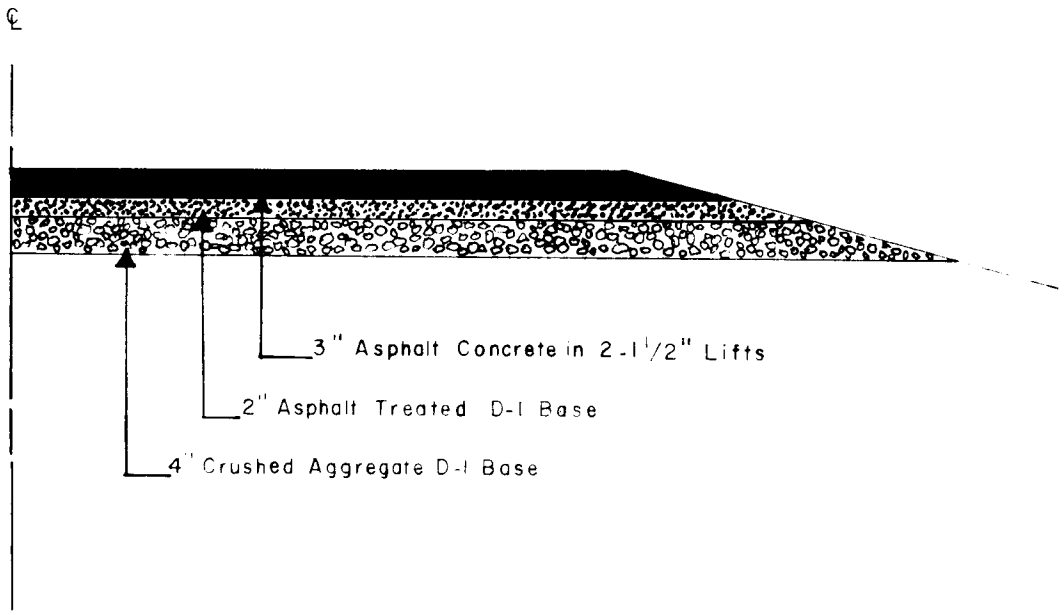
RECOMMENDED TYPICAL SECTION ON SUBUBDRAIN INSTALLATION







SOILS PROFILE
STA. 2777 - 2783
SOLDOTNA - KASILOF
F - 021 - 1(15)



TYPICAL SECTION OF ASPHALT PAVEMENT

Kasilof Beach Road

W1/2 NW1/4

Sec. 30 T.3N., R.11W., S.M.

68.95 A.

NW 1/16 Cor.

PROVEN AREA

LOT 1

LOT 2

1 2 3 4 5 6 7 8 9

W1/4 Cor.

KASILOF RIVER

PROJECT:

SOLDOTNA - KASILOF RIVER

F-021-1(15)

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
MATERIALS SECTION

MAT. SITE NO. 11-002-61	PA. NO. 296
SCALE. 1 = 300'	DATE. 7/3/62
DRAWN. H.O.	DATUM. F.M.G.

OUTLINE OF MATERIALS SITE REPORT

Materials Site No. 11-002-61 P.A. No.: 296

Project Name: Soldotna-Kasilof No.: F-021-1(15) Date: Aug. 1962

Location and Legal Description: The pit is located in the Kasilof Townsite, It is about ½ mile from the south end of the project. Lots 1 & 2 of Section 30, T. 3 N., R. 11 W., S.M.

Access to project: A short access road will have to be constructed.

Field description and geology: The area is a bench of gravel deposited by the Kasilof River. The area is nearly level.

Clearing: Small spruce, birch, and aspen with some willow.

Water Table: Believed to be between 18 and 30 feet.

Drainage: Good surface

Stripping Thickness: 2' average Proven Thickness of deposit: 12.7'

Area Proven: 16.8 acres Total: 68.95

Quantities Proven: 325,000 c.y. Estimated: 500,000 c.y.

Remarks: The pit appears excellent for a crushing site. Some sand layers are present but mostly near the surface, 6 inch is the largest size of rock noted. In the coarse gravel areas 12% is +3" diameter.

Sample Summary: Year 1961 Lab. Results.

Field No.	Lab. No.	AASHO Class	Unified Class	Frost Class	Recommended Use	% Passing #4	200	.02m
1	A-1360	A-1-b		NFS	Type I borrow	65	2	
2	A-1361	A-1-a		NFS	Crushed aggregate	41	3	
3	A-1362	A-3		NFS	Type I borrow	70	2	
4	A-1363	A-1-b		NFS	Type I borrow	66	0	
5	A-1364	A-3		NFS	Type I borrow	98	2	
6	A-1365	A-1-a		NFS	Crusher aggregate	47	1	
7	A-1366	A-1-b		NFS	Type I borrow	50	1	
8	A-1368	A-1-b		NFS	Type I borrow	53	3	
9	A-1369	A-1-a		NFS	Crusher aggregate	46	1	
10	A-1370	A-1-a		NFS	Crusher aggregate	39	1	
11	A-1371	A-3		NFS	Type I borrow	82	3	
12	A-1372	A-1-a		NFS	Crusher aggregate	39	1	
13	A-1373	A-1-a		NFS	Crusher aggregate	38	2	
14	A-1409	A-1-a		NFS	Crusher aggregate	43	1	

BORING NO. 1	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–5			
	6–7	A-1-b(0) NFS		
	8–10			
	11–15	A-1-a(0) NFS		

BORING NO. 2	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–3			
	4–5	A-3(0) NFS		
	6–12	A-1-b(0) NFS		
	13–15			

BORING NO. 3	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–3			
	4–5	A-3(0) NFS		
	6–10	A-1-b(0) NFS		
	11–15	A-1-a(0) NFS		

BORING NO. 4	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS
	1–5			
	6–15	A-1-b (0) NFS		

BORING NO. 5	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–10			
	11–15	A-1-a(0) NFS		

—LEGEND—

- ORGANIC
- SILT
- GRAVELLY SILT
- SILTY GRAVEL
- GRAVELLY SAND
- GRAVEL
- SAND

SYMBOLS

- WATER TABLE
- FROST ZONE

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

— FIELD BORING LOGS —

PROJECT Soldatna - Kasilof Rd.
PROJECT NO. F-021-1(6) DISTRICT 1
MAT. SITE NO. 11-002-61 DATE OF BORING 3/7/1961
DRAWN H.O. DATUM F.M.G.
APPROVED MKW SHEET 1 OF 2

BORING NO. 6	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0)	NFS	

BORING NO. 7	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–9	A-3(0)	NFS	
	9–15	A-1-a(0)	NFS	

BORING NO. 8	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0)	NFS	

BORING NO. 9	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS
	1–15	A-1-a(0)	NFS	

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15			

— LEGEND —

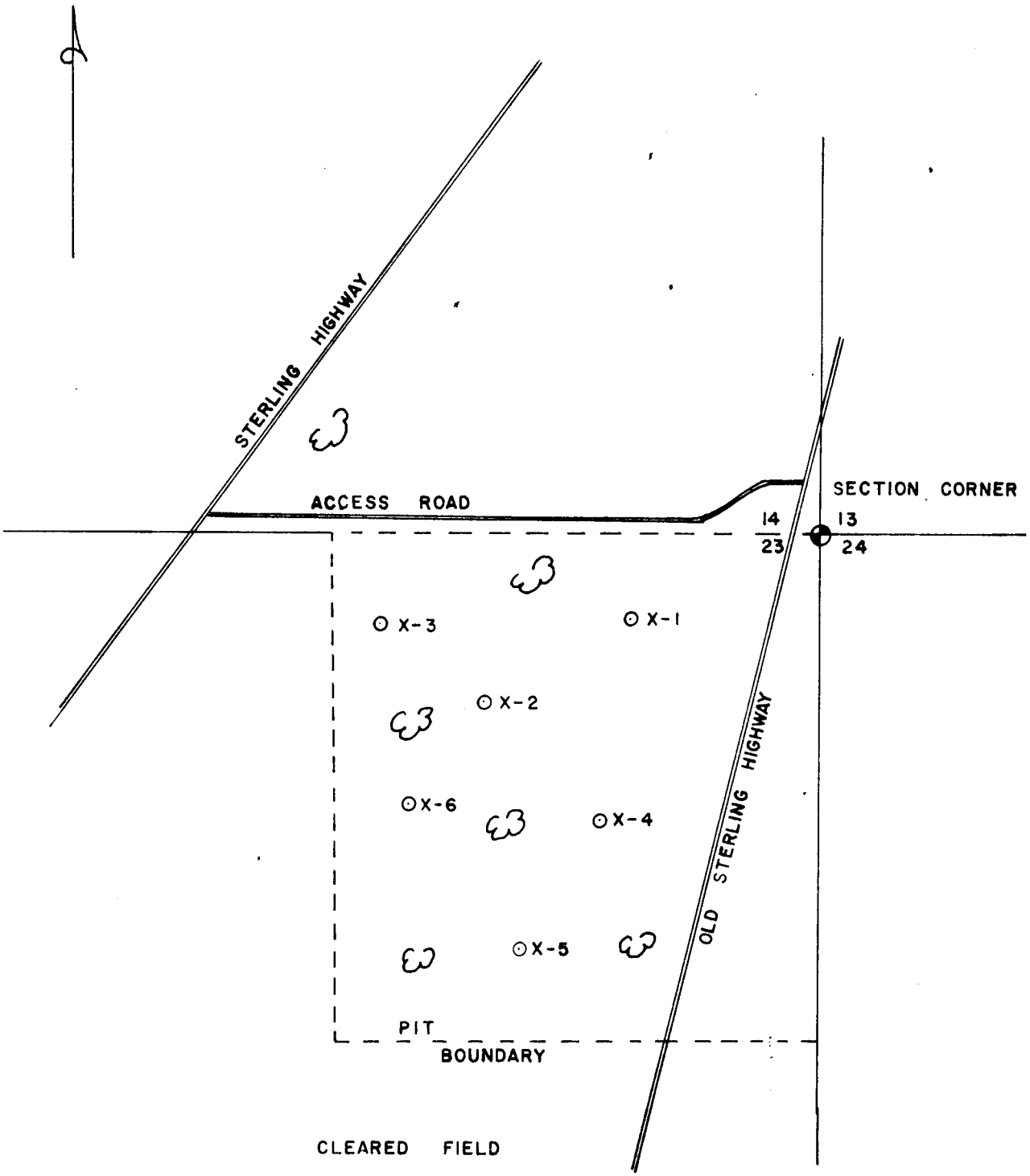
- ORGANIC
- SILT
- GRAVELLY SILT
- SILTY GRAVEL
- GRAVELLY SAND
- GRAVEL
- SAND

SYMBOLS

- WATER TABLE
- FROST ZONE

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION
— FIELD BORING LOGS —

PROJECT Soldotna - Kasilof Rd.
PROJECT NO. F-021-1(05) DISTRICT 1
MAT. SITE NO. 11-002-61 DATE OF BORING 3/7/61
DRAWN H.O. DATUM F.M.G.
APPROVED MKW SHEET 2 OF 2



PROJECT:

SOLDOTNA TO KASILOF
F-021-1(3) & (15)
SLIKOK PIT (Portion of)

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
MATERIALS SECTION

MAT. SITE NO. 11-009-62	PA. NO. 224 E
SCALE. 1" = 200'	DATE. 2-27-62
DRAWN. K L	DATUM. BRENNAN

FORM NO. 37-A

OUTLINE OF MATERIALS SITE REPORT

MATERIALS SITE NO.: 11-009-62

P.A. NO.: 224-E

Location: that portion of the NE^4, NE^4, NE^4, Sec. 23, T 4 N, R 11 W, S.M. east of the old Sterling Highway

Area: Proven ± 6 acres
Total ± 6 acres

Thickness of Deposit: 9.0' average

Quantities: Proven 14,000 c.y. gravel; 60,000 c.y. sand
Estimated 120,000 c.y. of sand gravel

Field description and geology of deposit: a gravel bench deposited by Slikok Creek during past glaciation retreat

Stripping thickness: 4.2' average

Clearing: spruce cover up to 12" in diameter

Water table: 16' to 17' below surface

Drainage: Surface fair to good
Subsurface good to 15'

Access to highway or project: adjacent to both the old and new highway

Remarks: large boulders may be expected - ± 5' diameter. The gravel is deposited in a layer ± 1.5' thick between the overburden and the sand. It will be difficult to work with out contamination by the sand. This pit is not a recommendation crusher site. Only Type I is recommended.

Sample Summary:

Field No.	Lab. No.	AASHO Class	Unified Class	Frost Class	Required Subgrade	% Passing #4	% Passing 200	% Passing .02m
1300	A-131	A-3	SP	NFS	none	94	2	--
1301	132	A-1-a	GW	NFS	none	47	3	--
1302	133	A-1-a	GW	NFS	none	50	3	--
1303	134	A-1-a	SP	NFS	none	96	1	--
1304	135	A-1-a	SW	NFS	none	53	4	--
1305	136	A-3	SP	NFS	none	100	1	--
1306	137	A-1-b	SP	NFS	none	88	3	--
1307	138	A-3	SP-SM	--	none	95	6	--

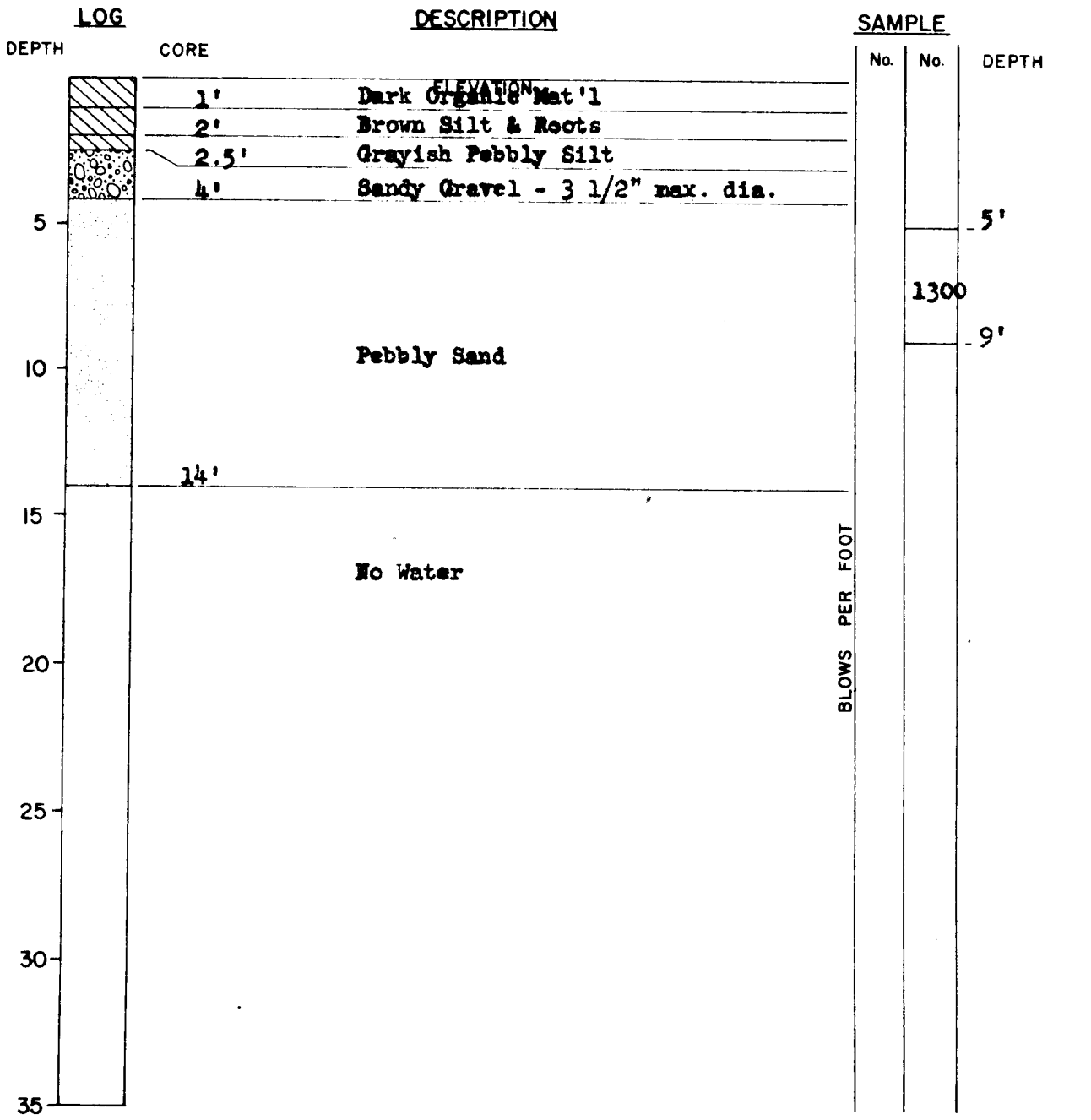
FORM AN-18

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
MATERIALS SECTION

FIELD BORING LOG

Code 11-009-62

PROJECT No. F-021-1(3) PROJECT Soldotna - Kasilof PREFIX A DATE 2-26-62
PURPOSE borrow T.H. No. X-1 STATION PIT PA 224-E
SUBMITTED BY M. K. Weaver LOGGED BY J. J. Brennan EQUIPMENT Backhoe



SYMBOLS:
WATER TABLE
NO RECOVERY
RECOVERY
> CORE

SIGNED Mark K. Weaver
DISTRICT GEOLOGIST

FORM AN-18

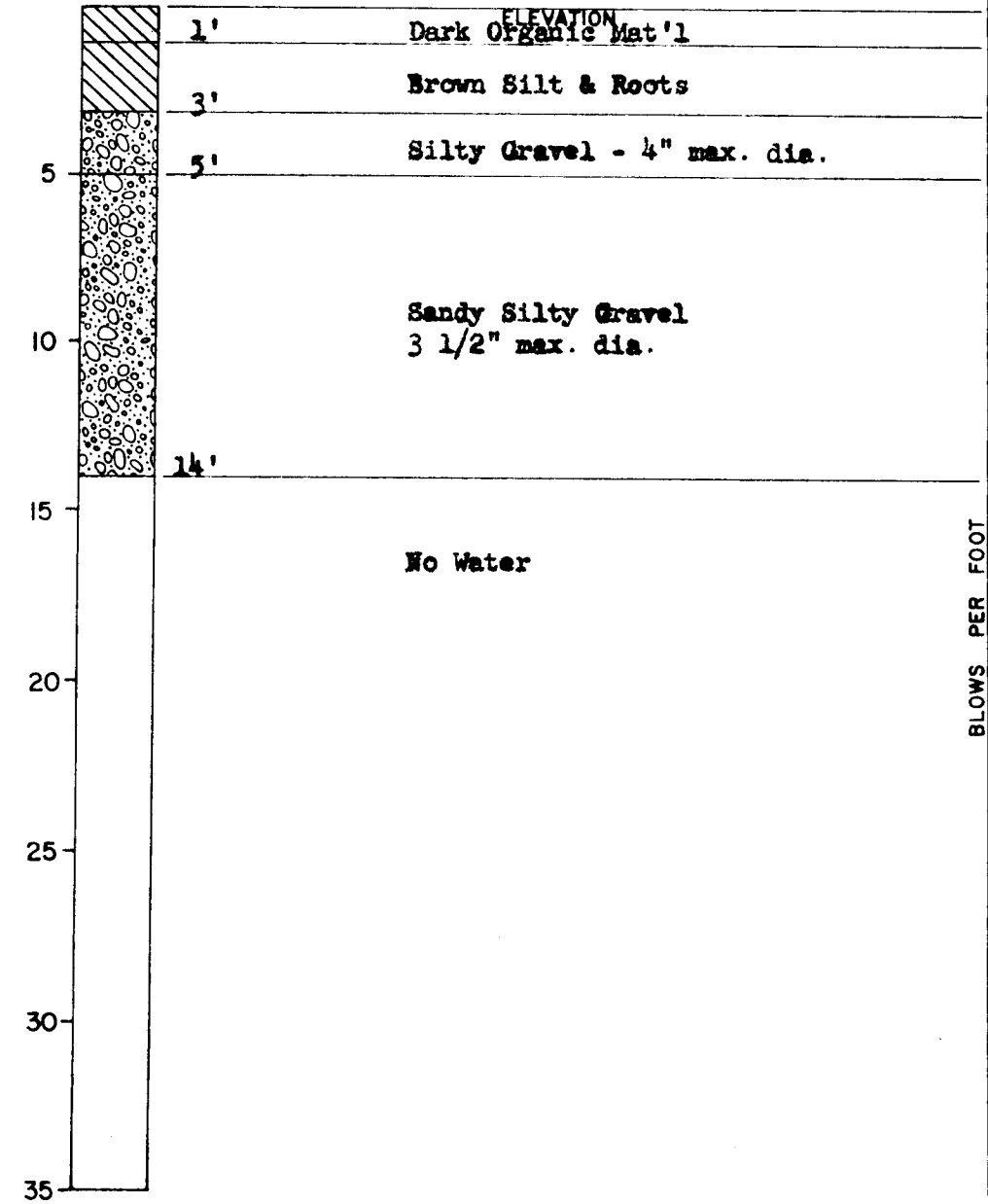
STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

MATERIALS SECTION

FIELD BORING LOG

Code 11-009-62

PROJECT No. F-021-1(3) PROJECT Soldotna - Kasilof PREFIX A DATE 2-26-62
PURPOSE borrow T.H. No. X-2 STATION PIT PA 224-E
SUBMITTED BY M. K. Weaver LOGGED BY J. J. Brennan EQUIPMENT Backhoe



SYMBOLS:

WATER TABLE

NO RECOVERY

RECOVERY

> CORE

SIGNED Monte K. Weaver
DISTRICT GEOLOGIST

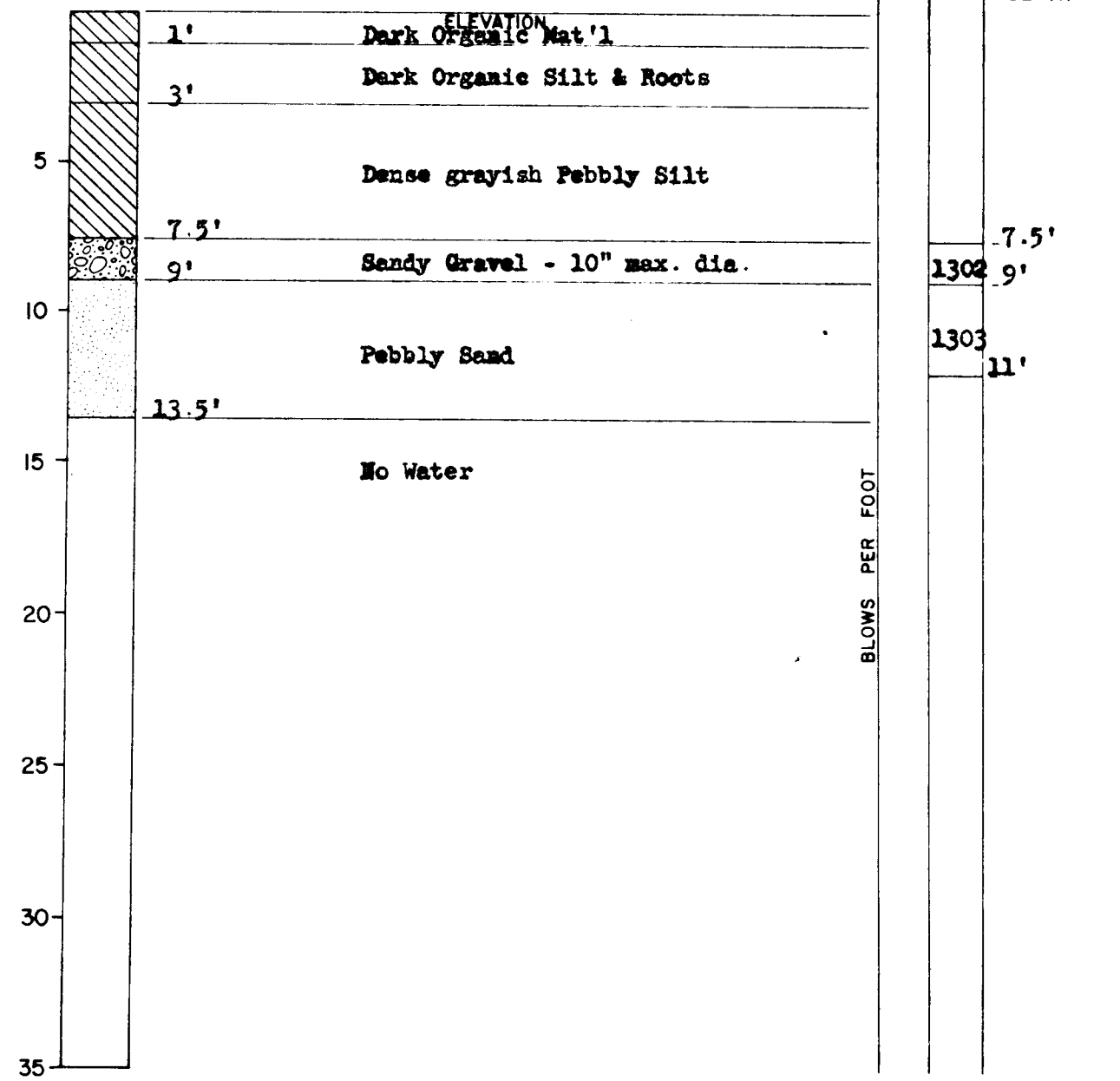
FORM AN-18

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
MATERIALS SECTION

FIELD BORING LOG

Code 11-009-62

PROJECT No. F-021-1(3) PROJECT Soldotna - Kasilof PREFIX A DATE 2-26-62
PURPOSE borrow T.H. No. X-3 STATION PIT PA 224-E
SUBMITTED BY M. K. Weaver LOGGED BY J. J. Brennan EQUIPMENT Backhoe



SYMBOLS:
WATER TABLE
NO RECOVERY
RECOVERY
> CORE

SIGNED Monte K. Weaver
DISTRICT GEOLOGIST

FORM AN-18

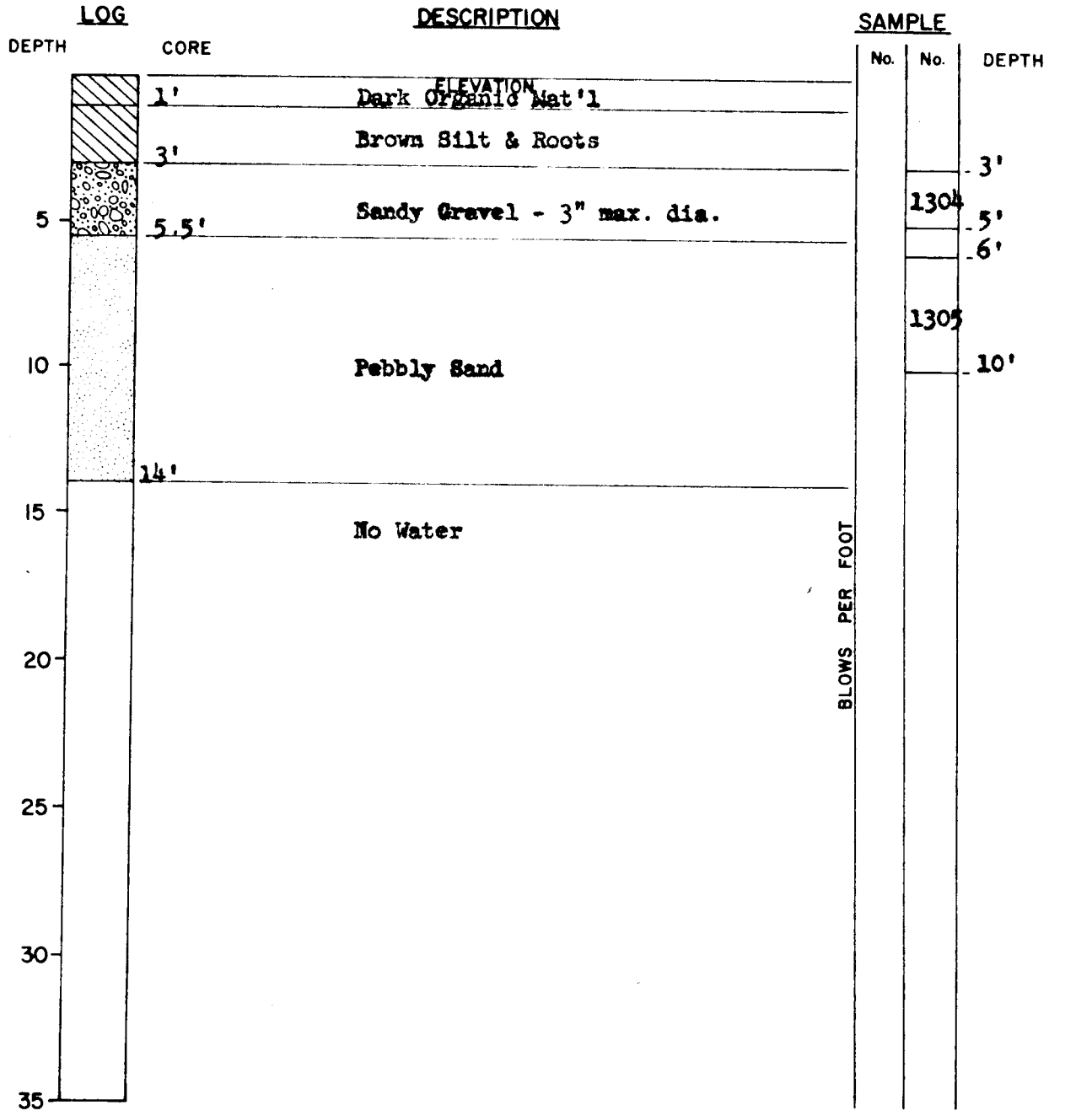
STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

MATERIALS SECTION

FIELD BORING LOG

Code 11-009-62

PROJECT No. F-021-1(3) PROJECT Soldotna - Kasilof PREFIX A DATE 2-27-62
PURPOSE borrow T.H. No. X-4 STATION PIT PA 224-E
SUBMITTED BY M. K. Weaver LOGGED BY J. J. Brennan EQUIPMENT Backhoe



SYMBOLS:

WATER TABLE

NO RECOVERY

RECOVERY

> CORE

SIGNED Monte K. Weaver
DISTRICT GEOLOGIST

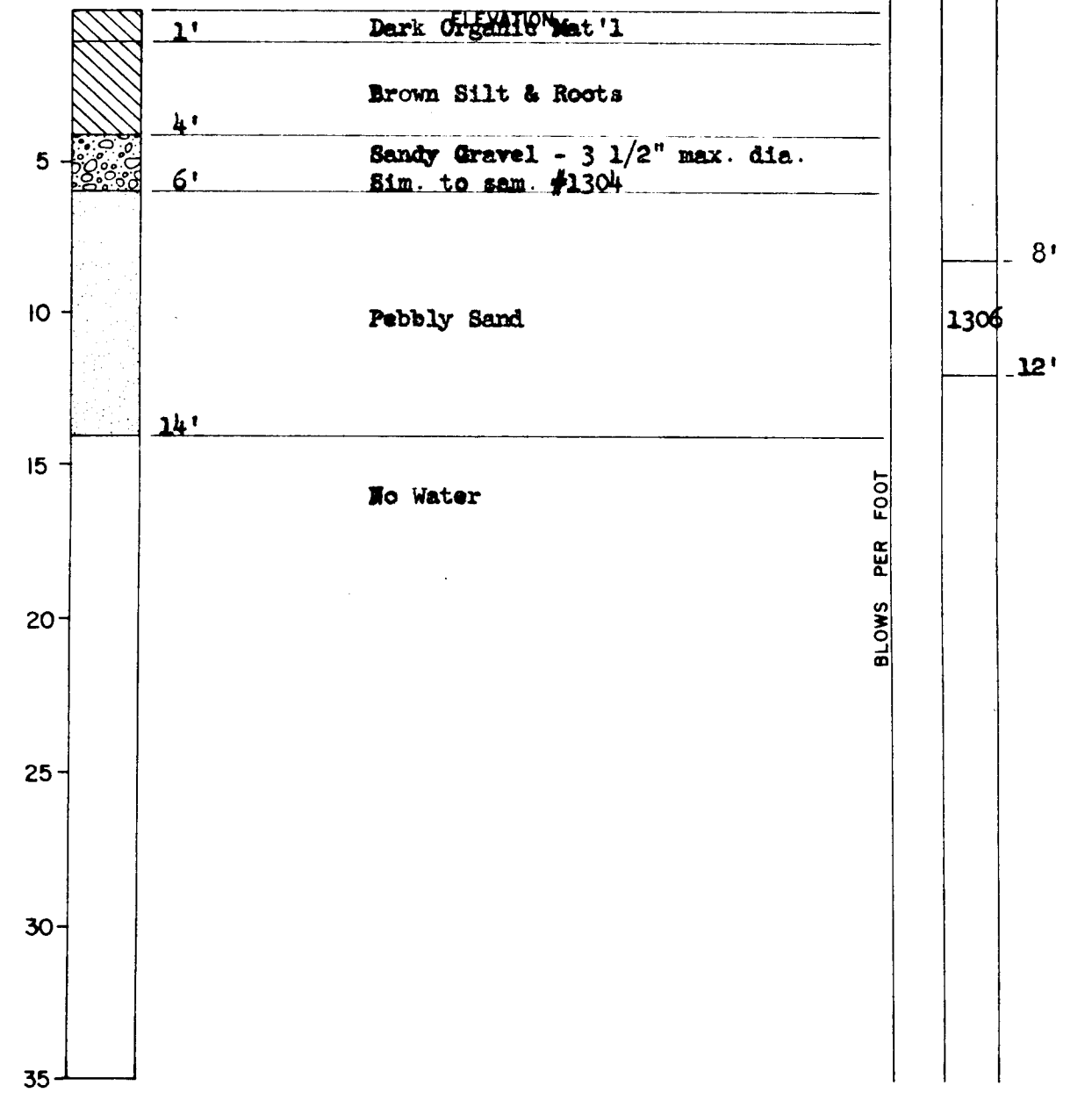
FORM AN-18

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
MATERIALS SECTION

FIELD BORING LOG

Code 11-009-62

PROJECT No. F-021-1(3) PROJECT Soldotna - Kasilof PREFIX A DATE 2-27-62
PURPOSE borrow T.H. No. X-5 STATION PIT PA 224-E
SUBMITTED BY M. K. Weaver LOGGED BY J. J. Brennan EQUIPMENT Backhoe



SYMBOLS:
WATER TABLE
NO RECOVERY
RECOVERY
> CORE

SIGNED Monte K. Weaver
DISTRICT GEOLOGIST

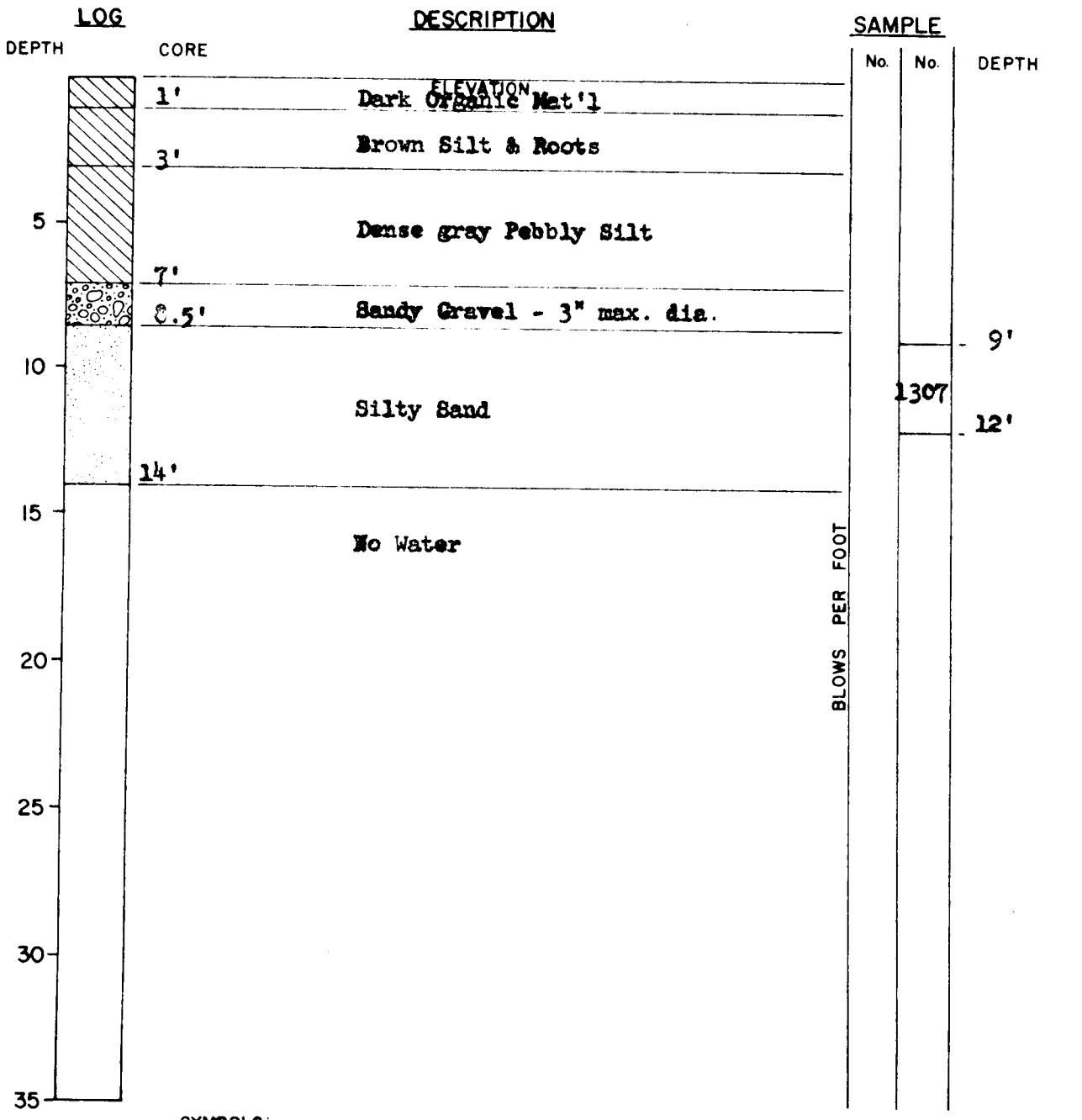
FORM AN-18

STATE OF ALASKA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
MATERIALS SECTION

FIELD BORING LOG

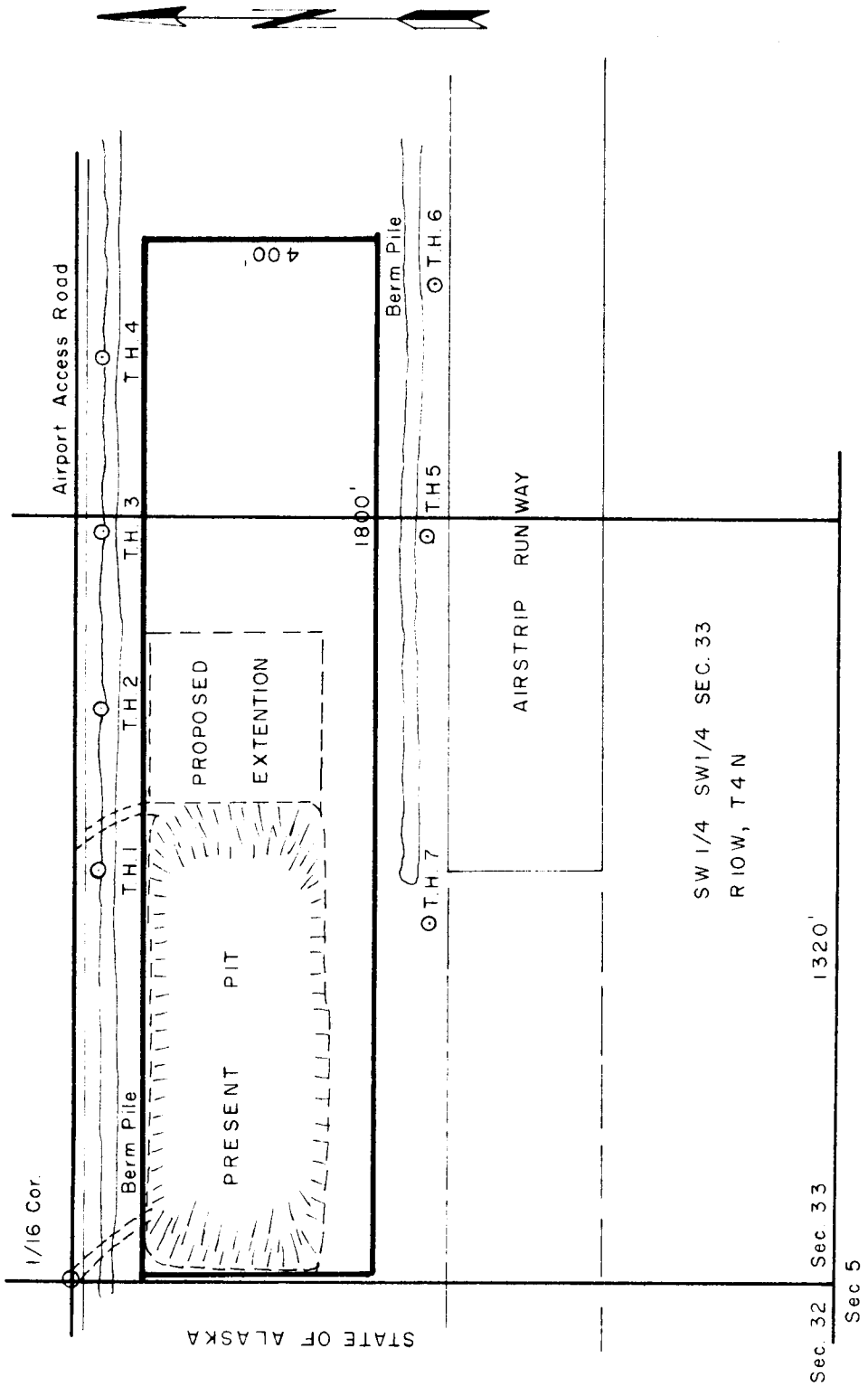
Code 11-009-62

PROJECT No. F-021-1(3) PROJECT Soldotna - Kasilof PREFIX A DATE 2-27-62
PURPOSE borrow T.H. No. X-6 STATION PIT PA 224-E
SUBMITTED BY M K. Weaver LOGGED BY J. J. Brennan EQUIPMENT Backhoe



SYMBOLS:
WATER TABLE
NO RECOVERY
RECOVERY
> CORE

SIGNED Monte K. Weaver
DISTRICT GEOLOGIST



PROJECT:

BORROW PIT
SOLDOTNA AIRSTRIP
SOLDOTNA-KASILOF PAVING
F-021-1(15)

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

MAT. [illegible] NO. 11-030-62	PA. NO. 295
SCALE. 1"=200'	DATE. 8/14/62
DRAWN. H.O.	DATUM. M.K.W.

OUTLINE OF MATERIALS SITE REPORT

Materials Site No. 11-030-62 P.A. No.: 295

Project Name: Soldotna-Kasilof No.: F-021-1(15) Date: Aug. 62

Location and Legal Description: North of west end of Soldotna Airfield. One mile from north end of project.

Access to project: a good one mile haul road exists

Field description and geology: a gravel bench of the Kenai River composed mainly of coarse gravel. (A-1-a) Well graded with a large amount of plus 2 inch gravel.

Clearing: Medium and small spruce and aspen

Water Table: varies from 14' to 16' depth

Drainage: good surface-water table can't be easily lowered

Stripping Thickness: 1.6' average Proven Thickness of deposit: 10' average

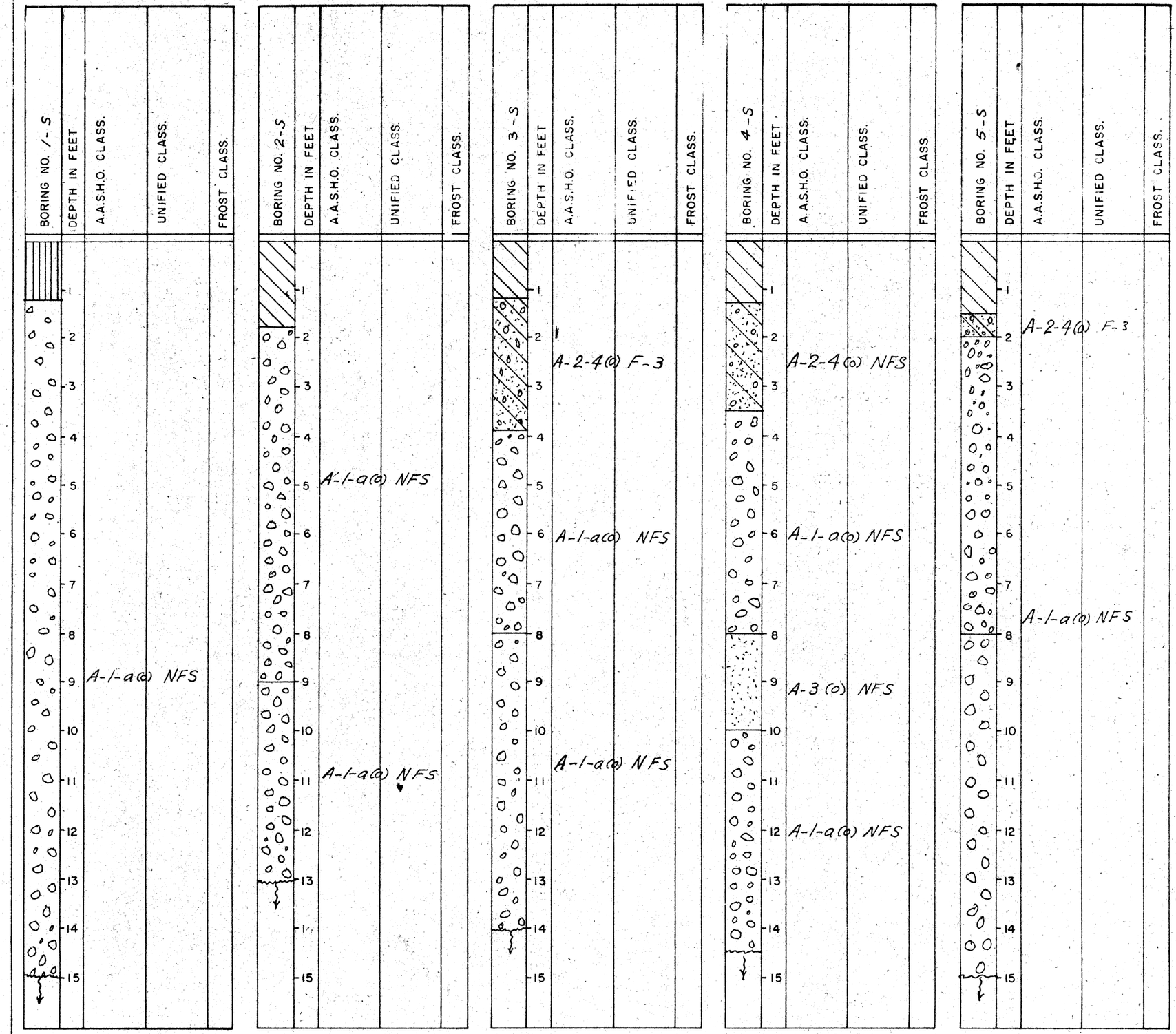
Area Proven: 17 acres Total: 17.355 acrs ±

Quantities Proven: 250,000 c.y. Estimated: 300,000 c.y.

Remarks: This is an excellent pit and was used for borrow on previous Soldotna-Kasilof project. The pit is mainly A-1-a material. It is an excellent crusher site.

Sample Summary: 1960 Lab. Results

Field No.	Lab. No.	AASHO Class	Unified Class	Frost Class	Recommended Use	% Passing #4	200	.02m
110	923	A-1-a		NFS	crusher agg.	44	3	
111	924	A-1-a		NFS	crusher agg.	32	2	
112	897	A-1-a		NFS	crusher agg.	43	2	
113	925	A-1-a		NFS	crusher agg.	35	4	
114	967	A-1-a		F-1	crusher agg.	42	9	
115	968	A-1-a		NFS	crusher agg.	30	3	
116	969	A-2-4		F-3	waste	98	32	
117	970	A-1-a		F-1	crusher agg.	42	8	
118	971	A-3		NFS	Type I borrow	72	2	
119	972	A-1-a		NFS	crusher agg.	41	4	
120	973	A-2-4		F-2	waste	100	17	
121	974	A-1-a		NFS	crusher agg.	35	4	
122	975	A-1-a		NFS	crusher agg.	28	2	
123	1055	A-1-a		NFS	crusher agg.	41	2	
124	1054	A-1-a		NFS	crusher agg.	28	2	
125	1053	A-1-a		NFS	crusher agg.	39	7	



STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

— FIELD BORING LOGS —

PROJECT Soldatna - Kasilof Rd.
PROJECT NO. E-021-1(15) DISTRICT 1
MAT. SITE NO. 11-030-62 DATE OF BORING 11/18/60
DRAWN H.O. DATUM M.K.W.
APPROVED M.K.W. SHEET 1 OF 2

BORING NO. 6-S	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0) NFS		

BORING NO. 7-S	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0) NFS		

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15			

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15			

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15			

— LEGEND —

- ORGANIC
- SILT
- GRAVELLY SILT
- SILTY GRAVEL
- GRAVELLY SAND
- GRAVEL
- SAND

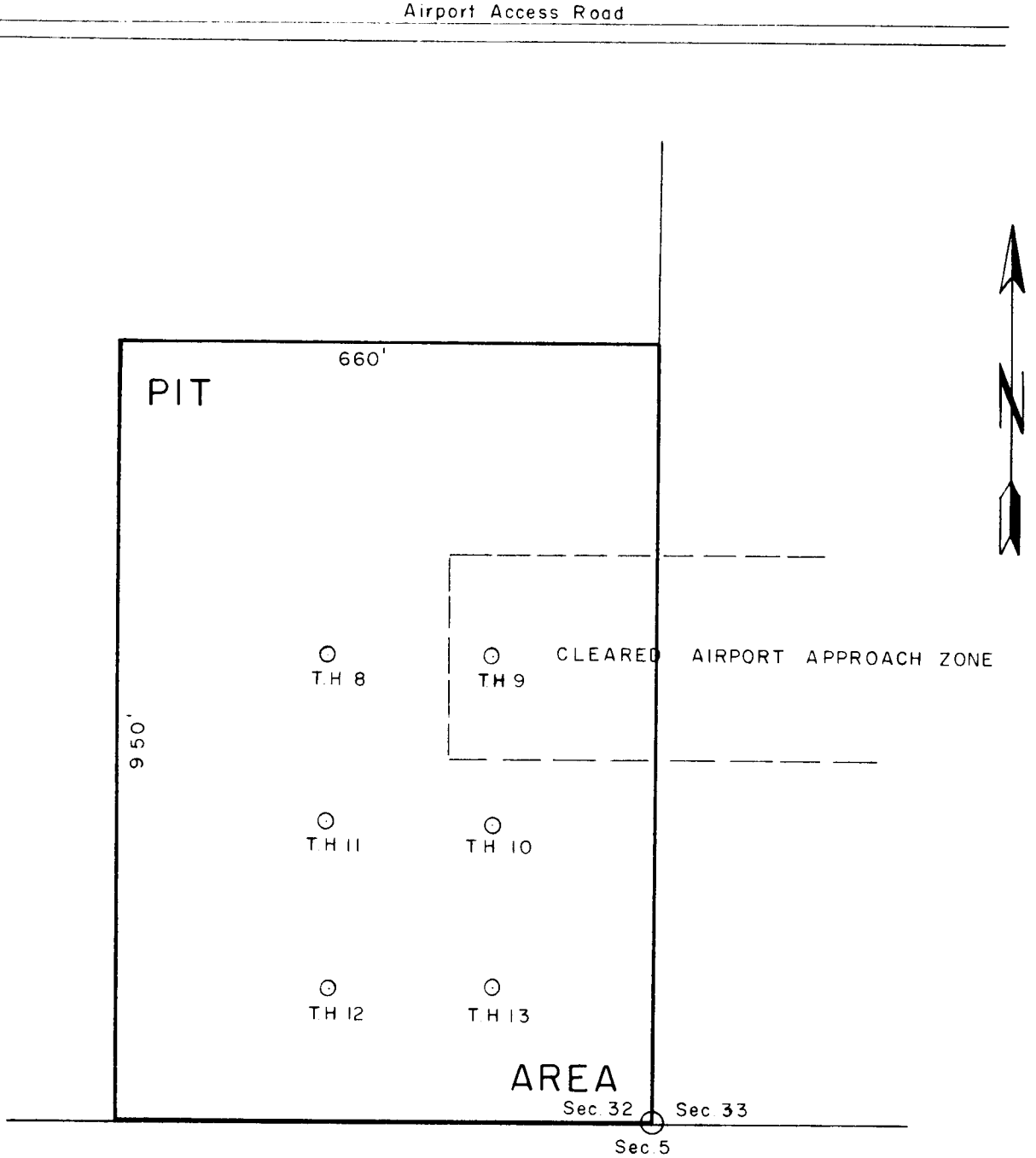
SYMBOLS

- WATER TABLE
- FROST ZONE

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

— FIELD BORING LOGS —

PROJECT Soldatna - Kasilof Rd.
PROJECT NO. F-021-1(15) DISTRICT 1
MAT. SITE NO. 11-030-62 DATE OF BORING 11/18/60
DRAWN H.O. DATUM M.K.W.
APPROVED M.K.W. SHEET 2 OF 2



PROJECT:

BORROW PIT
SOLDOTNA AIRSTRIP
SOLDOTNA-KASILOF PAVING
F-021-1(15)

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

MAT SITE NO. II-031-62	PA. NO. 294
SCALE. 1"=200'	DATE. 8/14/62
DRAWN. H.O.	DATUM. M.K.W.

FORM NO. 37-A

OUTLINE OF MATERIALS SITE REPORT

Materials Site No. 11-031-62 P.A. No.: 294

Project Name: Soldotna-Kasilof No.: F-021-1(15) Date: Aug. 1962

Location and Legal Description: On the west approach of the Soldotna Airfield. A portion of the SE^4 SE^4 Sec. 32, T. 5 N., R. 10 W., S.M.

Access to project: A one mile haul to the project on the airport road.

Field description and geology: A gravel bench of the Kenai River composed mainly of coarse gravel (A-1-a). Well graded with a large amount of plus 2 inch gravel.

Clearing: Medium and small spruce and aspen.

Water Table: Average depth 11.5', can't be easily lowered.

Drainage: surface good

Stripping Thickness: 1.6' average Proven Thickness of deposit: 10' average

Area Proven: 12 acres Total: 17.355 acres

Quantities Proven: 190,000 c.y. Estimated: 300,000 c.y.

Remarks: This is a good pit however it has never been opened up. The water table is higher than in site 11-030-62. Site 11-030-62 is recommended for a crusher site and not this site.

Sample Summary:

Field No.	Leb. No.	AASHO Class	Unified Class	Frost Class	Recommended Use	% Passing #4	200	.02m
128	A-991	A-1-a		NFS	crusher agg.	21	1	
127	A-990	A-1-a		NFS	crusher agg.	36	3	
129	A-992	A-4		F-4	waste	100	54	
130	A-993	A-1-a		NFS	crusher agg.	33	1	
131	A-994	A-1-a		NFS	crusher agg.	35	1	
132	A-995	A-1-a		NFS	crusher agg.	17	2	
133	A-996	A-1-a		NFS	crusher agg.	28	2	
134	A-997	A-1-a		NFS	crusher agg.	49	4	
135	A-998	A-1-a		NFS	crusher agg.	36	1	
136	A-999	A-1-a		NFS	crusher agg.	45	3	
137	A-1000	A-3		NFS	type I borrow	80	2	
138	A-1001	A-1-a		NFS	crusher agg.	34	3	
139	A-1002	A-1-a		NFS	crusher agg.	36	2	

BORING NO. 8	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–2	A-4(0)	F-4	
	2–15	A-1-a(0) NFS		
	12	H_2O at 12.5'		

BORING NO. 9	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0) NFS		

BORING NO. 10	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0) NFS		
	12	H_2O at 12'		

BORING NO. 11	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–15	A-1-a(0) NFS		
	10	H_2O at 10.2'		

BORING NO. 12	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1–3	A-1-a(0) NFS		
	3–7	A-3(0) NFS		
	8	H_2O at 8.7'		

— LEGEND —

- ORGANIC
- SILT
- GRAVELLY SILT
- SILTY GRAVEL
- GRAVELLY SAND
- GRAVEL
- SAND

SYMBOLS

- WATER TABLE
- FROST ZONE

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

— FIELD BORING LOGS —

PROJECT Soldotna-Kasilof Rd.
PROJECT NO. F-021-1(15) DISTRICT. 1
MAT. SITE NO. II-031-62 DATE OF BORING 12/7/60
DRAWN H.O. DATUM M.K.W.
APPROVED MKW SHEET 1 OF 2

7-W

BORING NO. 13	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1			
	2			
	3			
	4			
	5			
	6	A-1-a(0) NFS		
	7			
	8			
	9			
	10	H_2O at 10'		
	11			
	12			
	13			
	14			
	15			

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			

— LEGEND —

- ORGANIC
- SILT
- GRAVELLY SILT
- SILTY GRAVEL
- GRAVELLY SAND
- GRAVEL
- SAND

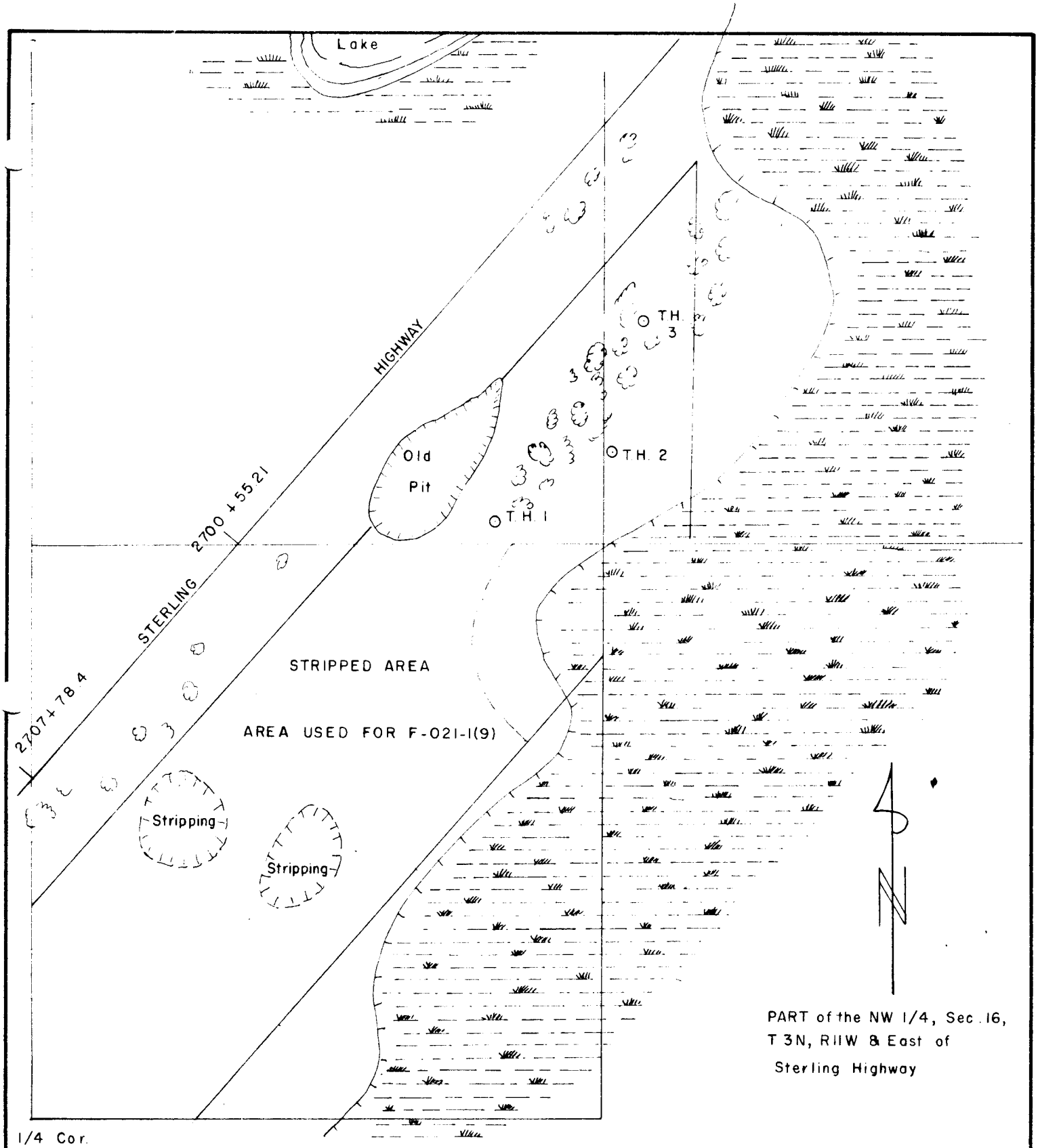
SYMBOLS

- WATER TABLE
- FROST ZONE

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

— FIELD BORING LOGS —

PROJECT Soldotna-Kasilof Rd.
PROJECT NO. F-021-1(6) DISTRICT 1
MAT. SITE NO. 11-031-62 DATE OF BORING 12/7/60
DRAWN H.C. DATUM M.K.W.
APPROVED M.K.W. SHEET 2 OF 2



PART of the NW 1/4, Sec. 16, T 3N, R11W & East of Sterling Highway

PROJECT:

BORROW PIT
COAL CREEK PIT
SOLDOTNA-KASILOF PVG.
F-021-1(15)

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

MAT. SITE NO. 11-032-62	PA NO. 291
SCALE. 1" = 300'	DATE. 8/16/62
DRAWN. H.O.	DATUM. F.M.G.

FORM NO. 37-A

OUTLINE OF MATERIALS SITE REPORT

Materials Site No. 11-032-62 P.A. No.: 291

Project Name: Soldotna-Kasilof No.: F-021-1(15) Date: Aug. 1962

Location and Legal Description: 3 miles north of the Kasilof River Bridge. On north side of Coal Creek. SW^4 SW^4 and the west 330' of NE^4 NW^4 and that portion of the NW^4 NW^4 lying east of the highway. Sec. 16, T3N., R11W., S.M.

Access to project: adjacent to project

Field description and geology: A low gravel bench adjacent to and deposited by Coal Creek. Large amounts of sand and small amounts of gravel remain.

Clearing: A large portion is presently cleared.

Water Table: 12' average at time of original work.

Drainage: Surface good. Coal Creek is 2' to 4' lower than H_2O table.

Stripping Thickness: 3' ave. in unstripped areas. Proven Thickness of deposit: 9' above H_2O

Area Proven: ±30 acres (minor areas are exhausted) Total: 56 acres

Quantities Proven: 89,000 c.y. Estimated: 100,000 c.y.

Remarks: 185,000 c.y. have been removed on previous contracts. There was 275,000 proven as of April 1961. 65,000 c.y. of this was below the water table. It is not a suitable crusher site. There is very little plus 2 inch gravel in the pit. It is mainly A-1-b.

Sample Summary:

1961 Field No.	Anchorage Lab. No.	AASHO Class	Unified Class	Frost Class	Recommended Use	% Passing #4	200	.02m
1	1336	A-1-a		NFS	Type II borrow	49	2	
2	1337	A-1-a		NFS	Type II borrow	42	3	
3	1338	A-1-b		NFS	Type I borrow	60	5	
4	1359	A-1-b		NFS	Type I borrow	75	2	
5	1269	A-1-a		NFS	Type II borrow	57	5	
6	1270	A-1-b		NFS	Type I borrow	61	3	
7	1271	A-1-a		NFS	Type II borrow	45	4	
8	1272	A-1-b		NFS	Type I borrow	58	2	
9	1273	A-1-a		NFS	Type II borrow	46	5	
10	1274	A-1-b		NFS	Type I borrow	68	2	
11	1275	A-1-b		NFS	Type I borrow	63	5	
12	1276	A-1-b		NFS	Type I borrow	76	3	
13	1277	A-3		NFS	Type I borrow	79	2	
14	1278	A-1-a		NFS	Type II borrow	47	2	
15	1279	A-1-a		NFS	Type II borrow	38	3	
16	1280	A-1-a		NFS	Type II borrow	40	5	

BORING NO. 1	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	0–12	A-1-a(0) NFS		
	12	H_2O at 12'		

BORING NO. 2	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	0–12	A-1-a(0) NFS		
	12	H_2O at 12'		

BORING NO. 3	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.
	0–12	A-1-b(0) NFS		
	12	H_2O at 12'		

BORING NO.	DEPTH IN FEET	A A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.

BORING NO.	DEPTH IN FEET	A.A.S.H.O. CLASS.	UNIFIED CLASS.	FROST CLASS.

— LEGEND —

- ORGANIC
- SILT
- GRAVELLY SILT
- SILTY GRAVEL
- GRAVELLY SAND
- GRAVEL
- SAND

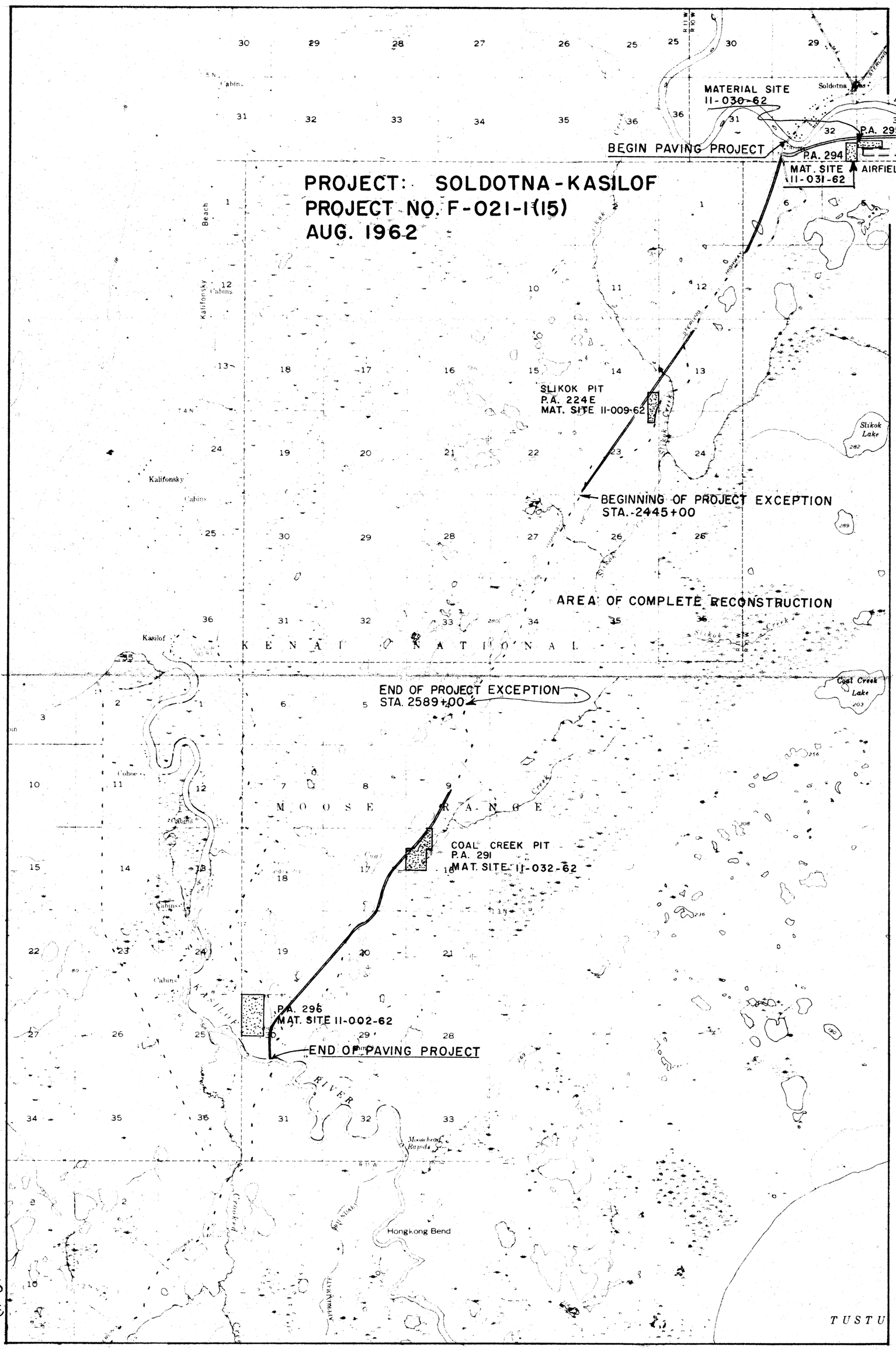
SYMBOLS

- WATER TABLE
- FROST ZONE

STATE OF ALASKA
DEPARTMENT OF HIGHWAYS
MATERIALS SECTION

— FIELD BORING LOGS —

PROJECT Soldotna - Kasilof Rd.
PROJECT NO. F-021-1(15) DISTRICT 1
MAT. SITE NO. 11-032-62 DATE OF BORING 4-3-62
DRAWN H.O. DATUM E.M.G.
APPROVED MKW SHEET 1 OF 1


PROJECT: SOLDOTNA - KASILOF
PROJECT NO. F-021-1(15)
AUG. 1962
MATERIAL SITE
II-030-62
BEGIN PAVING PROJECT
P.A. 294
MAT. SITE
II-031-62
AIRFIELD
P.A. 295
SLIKOK PIT
P.A. 224E
MAT. SITE II-009-62
BEGINNING OF PROJECT EXCEPTION
STA. 2445+00
AREA OF COMPLETE RECONSTRUCTION
END OF PROJECT EXCEPTION
STA. 2589+00
COAL CREEK PIT
P.A. 291
MAT. SITE II-032-62
P.A. 296
MAT. SITE II-002-62
END OF PAVING PROJECT
Kalifonsky
Cabins
Kasilof
Soldotna
Slikok Lake
Coal Creek Lake
Hongkong Bend
K E N A I N A T I O N A L
M O O S E R A N G E
T U S T U